

21. (Amended) A virtual private network in an network, comprising:

a plurality of endpoints, each of the endpoints having a hose, the hose does not reference another endpoint at establishment; and

a plurality of routing paths in the network, the routing paths coupling the hose to endpoints associated with other hoses; and

a virtual private network service provider; the virtual private network service provider allocating network resources to support communications between the hose and the other hoses.

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REMARKS

Claims 1-39 are pending in this application. By this Amendment, claims 1 and 21 are amended. Reconsideration based on the above amendments and the following remarks is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Claims 1, 22, 21 and 22 stand rejected under 35 U.S.C. §102(e) as being anticipated by Ma (U.S. Patent No. 5,953,338); and claims 3-20 and 23-39 stand rejected under 35 U.S.C. §103(a) over Ma in view of Mitra (U.S. Patent No. 6,331,986 B1). Applicants respectfully traverse the rejections.

The concept of a "hose", as defined in the present specification, differs from conventional prior art point-to-point model for virtual private networks, as reflected in the references cited by the Examiner. Unlike the prior art, a "hose" in accordance with the present invention specifies an aggregate traffic from an endpoint to all of the endpoints in the virtual private network and to the endpoint from all of the other endpoints in the virtual private network--without referencing a

specific endpoint in a point-to-point fashion. This has numerous advantages over the prior art which are detailed in the specification.

In particular, neither Ma nor Mitra disclose or suggest a method for providing a virtual private network service including establishing a hose for each of a plurality of endpoints of a virtual private network, the hose does not reference another endpoint at establishment, as recited in independent claim 1, and similarly recited in independent claim 21.

Ma discloses in Fig. 1A and Fig. 1B and in col. 6, lines 29-42 that multiple virtual private networks, such as virtual private network 170 in Fig. 1A are preferably installed on an ATM network, such as ATM network 120 in Fig. 1B. The ATM network 120 has multiple customer networks 110A, 110B, 110C . . . and 110K electrically or optically coupled directly and/or indirectly to ATM network 120 via physical interfaces 133. However, Ma is silent as to the description of the physical interfaces 133. Specifically, Ma fails to disclose or suggest establishing a hose for each of a plurality of endpoints of a virtual private network, the hose does not reference another endpoint at establishment, and coupling the hose to endpoints associated with other endpoints via routing paths in a network, as recited in independent claim 1, and similarly recited in independent claim 21. In fact, nowhere in Ma does it mention a hose.


Mitra fails to compensate for the above-noted deficiencies of Ma. Mitra disclose that for each source-destination pair communicating via a given sub network and a given class of service, determining a traffic rate can be offered to each of a set of permissible routes between that source and that destination, in the given sub network and service class. Mitra further disclose allocating a respective bandwidth to each link of each sub network and the determinations of traffic rate can be offered and the allocations of bandwidth to respective links of sub networks, are performed in a mutually responsive manner. See, for example Abstract of Mitra.

Because neither Ma nor Mitra, individually or in combination, disclose or render obvious each and every feature of the claimed invention, Applicants submit that independent claims 1 and 21 define patentable subject matter. Claims 2-20, 22-39 depend from the independent claims, and therefore also define patentable subject matter. Accordingly, withdrawal of the rejections under 35 U.S.C. §102(e) and under 35 U.S.C. §103(a) be withdrawn.

In view of the foregoing amendments and remarks, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-39 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number set forth below.

Respectfully submitted,

  
James A. Oliff, Reg. No. 27,075  
Yong S. Choi, Reg. No. 43,324  
Attorney for Applicants

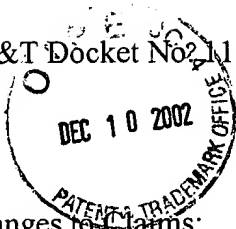
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Attachment:  
Appendix

Date: December 10, 2002

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

<p><b>DEPOSIT ACCOUNT USE AUTHORIZATION</b> Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
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## APPENDIX

Changes to Claims:

The following is a marked-up version of the amended claims:

1. (Amended) A method for providing a virtual private network service, comprising:
  - establishing a hose for each of a plurality of endpoints of a virtual private network, the hose does not reference another endpoint at establishment;
  - coupling the hose to endpoints associated with other hoses via routing paths in a network; and
  - allocating network resources to support communications between the hose and the other hoses.
21. (Amended) A virtual private network in an network, comprising:
  - a plurality of endpoints, each of the endpoints having a hose, the hose does not reference another endpoint at establishment; and
  - a plurality of routing paths in the network, the routing paths coupling the hose to endpoints associated with other hoses; and
  - a virtual private network service provider; the virtual private network service provider allocating network resources to support communications between the hose and the other hoses.